XXIV.—Notes on Fossirial Hymenoptera.—XX. On some Larringe in the British Museum. By ROWLAND E. TURNER, F.Z.S., F.E.S.

# Key to the Australian Species of Liris.

오오.

Wings yellow, with a pale fuscous margin; legs ferruginous; the whole dorsal surface clothed with golden pubescence ... Wings pale fuscous; legs black; without golden pubescence ......

[subsp. magnifica, Kohl. L. hæmorrhoidalis, Fabr.,

L. melania, Turn.

#### Liris melania, sp. 11.

- Q. Nigra, subopaca; segmento mediano opaco, delicatissime transverse striato; area pygidiali setosa, aureo-pilosa; alis fuscohyalinis, venis fuscis.
- Long. 17 mm.
- 2. Clypeus finely and closely punctured, with a deep depression in the middle of the apical margin. Second joint of the flagellum equal to the third, twice as long as the first. Eyes touching the posterior margin of the head, separated on the vertex by a distance not quite equal to the length of the second joint of the flagellum. Cheeks and the base of the mandibles clothed with fine silver pubescence. Pronotum not reaching the level of the mesonotum, higher in the middle than at the sides. Thorax subopaque, minutely punctured; median segment about equal in length to the mesonotum, very finely and closely transversely striated, with a longitudinal sulcus from the base to the apex, the sides of the dorsal surface and of the posterior truncation more coarsely striated. Abdomen subopaque, microscopically punctured; obscure apical bands of fine whitish pubescence, broadly interrupted in the middle on the three basal dorsal segments. Progidial area subtriangular, narrowly rounded at the apex, shaped as in L. gibbosa, Kohl, clothed with fine golden pubescence, and with numerous black setæ. Second ventral segment swollen near the base as in Notogonia, with a carina from the base to the middle. Second abscissa of the radius as long as the third, the two recurrent nervures received very close to each other.

Hab. Cairns district, Q. (collected by F. P. Dodd and presented by Dr. Perkins).

This was recorded by me as L. ducalis, Sm. (Trans. Ent.

Soc. London, p. 425, 1910), to which it is nearly allied; but in that species the eyes are very distinctly separated from the hind margin of the head, as in all the other species of the group known to me, the median segment is longer and has the median sulcus much more obscure, and the pubescence on the head is golden.

#### Liris cowani, Kirby.

Larrada cowani, W. F. Kirby, Trans. Ent. Soc. London, p. 200 (1883).
 ↓.
 Liris pedestris, Saussure, Grandidier, Hist. Madagascar, xx. p. 517 (1892).
 ↓ ♂.

# Key to the Australian Species of Larra.

#### 우우.

1. Fore tibiæ with a row of spines on the outer

2.	Fore tibie without spines on the outer margin  Legs ferruginous Legs black, shading into fusco-ferruginous on the tibiæ and tarsi in some specimens.	2. L. femorata, Sauss. L. scelesta, Turn.
1.	of.  Eyes separated on the vertex by a distance at least equal to the length of the three basal joints of the flagellum  Eyes separated on the vertex by a distance equal to the length of the two basal	L. melanocnemis, Turn.
2.		2. L. femorata, Sauss.

## Larra melanocnemis, sp. n.

L. scelesta, Turn.

ferruginous .....

- Q. Nigra, opaca, abdomine nitido, segmentis dorsalibus 1-5 fascia interrupta, albo-pilosa; tegulis pallide testaceis; alis fuscohyalinis, venis fuscis. Long. 15-17 mm.
- Q. Clypeus opaque, very finely and closely punctured, the extreme apex smooth and shining, the apical margin transverse. Head subopaque, finely and closely punctured, the front above the base of the antennæ shining and very sparsely punctured. Second joint of the flagellum twice as long as the first and half as long again as the third, the antennæ quite as stout in proportion as in L. anathema. Eyes separated on the vertex by a distance equal to the

combined length of the second and third joints of the flagellum. Pronotum sunk a little below the mesonotum, no higher in the middle than at the sides, the dorsal surface almost linear, very sharply sloped anteriorly. Thorax very closely punctured, the pleuræ covered with short silver-white pubescence. Median segment longer than the mesonotum, granulate, without any distinct median sulcus or carina, the apical slope finely and closely punctured. Abdomen smooth and shining, the first to fifth dorsal segments with a broadly interrupted apical band of white pubescence; pygidial area elengate, pointed at the apex, finely and very sparsely punctured. Anterior tibiæ with a row of spines on the outer margin. Third abscissa of the radius equal to the second, the recurrent nervures separated from each other on the cubitus by a distance equal to nearly two-thirds of the distance between the first recurrent nervure and the first transverse cubital nervnre.

Hab. Muckay, Q, November to May (ex coll. G. Turner); Adelaide River, N.T. (J. J. Walker); Adelaide, S.A.

This is the Australian representative of L. mansueta, Sm.,

a New Gninea species.

In a former paper (Proc. Zool. Soc. London, p. 473, 1908) I identified this species erroneously as Larrada nigripes, Sauss., and treated Larra psilocera, Kohl, as a synonym. Schulz (Zool. Ann. p. 191, 1911), having consulted Saussure's collection, applies the name nigripes to quite a different insect, which now bears the type-label. Saussure's description, however, seems to have been taken from a headless female, whereas the specimen mentioned by Schulz is a male and not headless. But Saussure's description is insufficient for any certainty. With regard to L. psilocera, Kohl, the description of the antennæ does not agree either in colour or form with the present species, the clypeus also is more polished. The locality given is Australia, but I suspect that the specimen may have come from one of the Austro-Malayan or Melanesian islands.

# Larra femorata, Sauss.

Tachytes femoratus, Sauss. Mém. soc. phys. & hist. nat. Genève, xiv. p. 20 (1854).

Larrada femorata, Sauss. Mélang. Hymen. i. p. 69 (1854).

Larra femorata, Kohl, Verh. zool.-bot. Ges. Wien, xxxiv. p. 243 (1884).

Hab. Sydney (Froggatt); Mackay, Q., November to April (ex coll. G. Turner); Kuranda, Q., January to June (Turner).

#### Larra scelesta, Turn.

Larra scelesta, Turn. Proc. Zool. Soc. London, p. 474 (1908). Q.

I doubt if this is more than a variety of L. femorata. I can find no good structural distinction, and the colour of the legs seems to vary, intermediate forms occurring.

# Larra erythropyga, sp. n.

- Q. Nigra; segmentis abdominalibus lateribus albo-pilosis; segmento sexto, plerumque etiam in parte quinto, rufis; tegulis testaceis; alis fuscis.
  Long. 17-20 mm.
- ?. Clypeus opaque, finely and closely punctured, the apical margin transverse; front above the base of the antennæ shining and concave, the marginal grooves very distinct, the upper part of the front and the vertex opaque, finely and closely punctured. Second joint of the flagellum twice as long as the first and about half as long again as the third; eyes separated on the vertex by a distance slightly exceeding the combined length of the two basal joints of the flagellum. Thorax finely and closely punctured, opaque, the mesopleuræ shining and less closely punctured. segment longer than the mesonotum, granulate, with a low median carina not reaching the apex, the posterior slope finely rugulose and divided by a longitudinal sulcus. Abdomen shining, almost smooth; pygidial area triangular, almost smooth, the sides nearly half as long again as the basal breadth. Fore tibiæ with a row of spines on the outer margin. Third abscissa of the radius a little longer than the second, which is equal to the first; the second recurrent nervure received close to the middle of the cubital margin of the second cubital cell, very narrowly separated from the first recurrent nervure.

Hab. Nyasaland, S.W. of Lake Chilwa; January 1914

(S. A. Neave).

Superficially this species strongly resembles the North-American L. anolis, Fabr., but has the pronotum raised much higher than in that insect.

# Notogonia australis, Sauss.

Tachytes australis, Sauss. Mém. soc. phys. & hist. nat. Genève, xiv. p. 19 (1854).

Larrada australis, Sauss. Mélang. Hymen. i. p. 69 (1854). Larra australis, Turn. Proc. Zool. Soc. London, p. 474 (1908).

This species should be placed in Notogonia, having the

second ventral segment formed as in that genus; the pronotum sunk below the mesonotum, distinctly higher in the middle than on the sides; and a small tooth on the inner side of the mandibles at about one-third from the base. On the other hand, it approaches *Larra* in the short tarsal ungues and in the very sparse pubescence of the pygidial area.

Hab. Adelaide, S.A.; Eaglehawk Neck, S.E. Tasmania. Tachytes australis, Sauss., Reise d. Novara, Zool. ii. p. 68 (1867), is quite a different insect, but has been confused in Dalla Torre's catalogue. It is probably a Tachysphex.

# Notogonia pilosifrons, sp. n.

- Q. Nigra, fronte aureo-pilosa, segmentis dorsalibus 1-3 fascia apicali obscura albida; alis fuscis.
  Long. 17 mm.
- 2. Clypeus subopaque, very minutely and closely punctured, with a transverse row of large punctures near the apex. the apical margin straight. Second joint of the flagellum equal to the third, twice as long as the first. Eyes separated on the vertex by a distance equal to nearly two-thirds of the length of the second joint of the flagellum. Front clothed with bright golden pubescence. Pronotum sunk much below the mesonotum, much higher in the middle than at the sides; mesonotum strongly depressed in the middle of the anterior margin, subopaque. Median segment opaque, longer than broad, obscurely transversely striated, the striæ more distinct on the apical angles and on the posterior truncation; a very obscure median carina from the base not reaching the apex. Abdomen subopaque; the pygidial area triangular, the sides a little longer than the base, covered densely with coarse black setæ. First ventral segment finely obliquely striated at the apex; second ventral segment swollen towards the base, as is usual in the genus, and with a carina from the base not reaching the middle. Basal joint of the fore tarsus with four spines on the outer margin. Second abscissa of the radius a little shorter than the third, in some specimens equal to the third; the two recurrent nervures very near together on the cubitus.

Hab. Mlanje, Nyasaland, from 2300 ft.; May to January

(S. A. Neuve).

The wings are paler than in N. gowdeyi, Turn., and have no blue effulgence. It is also distinguished from that species by the golden pubescence on the front, the sculpture of the median segment, the lesser distance between the eyes on the vertex, and other etails.

# Key to the African Species of Motes.

우우.

	gs hyaline, clouded with fuscous gs golden yellow, with a broad fuscous	2.
1	margin	3.
2. Abde Two	omen wholly redor three apical segments of the abdomen	M. cyphononyx, Kohl.
3. Abd	only redominal segments with a broad reddish-	M. odontophora, Kohl.
	brown apical band above and beneath	M. deceptor, Turn.
	ominal segments without a reddish apical band	M. liroides, Turn.

# Motes cyphononyx, Kohl.

The type is from West Africa. Specimens in the British Museum are from Mwera, Uganda, August (U. G. Gowdey); Chagwe, Mabira Forest, Uganda, 3500 feet, July (S. A. Neave); Mlanje, Nyasaland, January (S. A. Neave); Upper Luangwa River, N.E. Rhodesia, August (S. A. Neave).

# Motes deceptor, sp. n.

Q. Nigra; capite, pronoto, mesonoto, scutello, segmento mediano supra, abdomine supra tibiisque anticis intermediisque subtus dense aureo-pilosis; scapo subtus, tegulis, segmentis dorsalibus et ventralibus 2-5 fascia lata apicali, segmento dorsali sexto, femoribus apice, tibiis tarsisque brunneo-ferrugineis; alis aurantiacis, fascia lata apicali fusca.

Long. 20 mm.

2. The whole dorsal surface of the insect covered with dense golden pubescence, concealing the sculpture. Mandibles incised on the outer margin; clypeus narrowly and shallowly emarginate on the middle of the apical margin; second joint of the flagellum equal to the third, rather more than twice as long as the first. Eyes separated on the vertex by a distance equal to the length of the second joint of the flagellum. Pronotum sunk below the level of the mesonotum, higher in the middle than at the sides; pleuræ Sides of the median segment smooth, smooth, opaque. opaque, with a few striæ near the apex; dorsal surface and posterior slope strongly transversely striated at the sides, the striæ very short. First ventral segment with irregular oblique striæ on the apical third, second ventral segment shaped as in Notogonia. Pygidial area in the form of a triangle rather broadly truncated at the apex, clothed with short setæ, a row of very stout setæ forming a comb at the 254

apex. The basal joint of the fore tarsi has four long spines on the outer margin; the tooth near the middle of the tarsal ungues is small. The dark apical border of the fore wing reaches the first transverse cubital nervure. First abscissa of the radius as long as the second and third combined, the two recurrent nervures very near to each other on the cubitus. Hab. Offi, N. Nigeria (Hiscock).

This species is very near liroides, Turn., and may prove to be a western subspecies of that insect. It differs in the broader pygidial area, in the shape of the anterior margin of the clypeus, in the reddish-brown margins of the abdominal segments, and in the darker and somewhat broader marginal band of the fore wing.

The superficial resemblance to Liris hæmorrhoidalis is

very striking.

# Key to the Australian Species of Tachysphex.

4. Wings fuscous or dark fusco-hyaline ....

Pygidial area distinctly though not very closely punctured; comb of the fore tarsi black and long ..............
 Pygidial area smooth and shining; comb of the fore tarsi shorter and fusco-

Wings dark fusco-hyaline; mesonotum, scutellum, and abdomen subopaque ...

Median segment rugose-reticulate; second abscissa of the radius at least twice as long as the third .....

Dorsal surface of median segment rugose-reticulate or longitudinally striated.
 Dorsal surface of median segment smooth or minutely punctured.
 Median segment longitudinally striated; third abscissa of the radius longer than the second.

Wings hyaline .....

Legs testaceous brown, hind and intermediate femora black except at the apex.

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4.

T. adelaidæ, Turn.

T. imbellis, Turn. 5.

7.

T. stimulator, Turn.

6.

 $T.\ persistans,\ {\it Turn.}$ 

T. hypoleius, Sm.

8.

9.

T. walkeri, Turn.

T. rugi lorsatus, Turn.

9.	Thorax and median segment covered with long pubescence; abdominal fascine tinged with pale gold  Thorax and median segment not strongly pubescent; abdominal fascine white or	T pilosulus, Turn
10.	absent The whole insect, especially the abdomen, much flattened, dorsal surface of abdo-	10.
11	men flat Normal, not flattened	T. depressiventris, Turn.
11.	Mesonotum and scutellum shining, highly polished	12.
12.	opaque	14.
	the third	T. pacificus, Turn.
13.	shorter than the third	13.
	the pygidial area long and narrow Second joint of the flagellum shorter than	T. pugnator, Turn.
14.	the third, pygidium not compressed, the pygidial area fairly broad  Median segment a little longer than the	T. discrepans, Turn.
	mesonotum	15.
15.	the mesonotum	16.
	tennæ black; second abscissa of the radius fully as long as the first or third.	T. mackayensis, Turn.
	Mesonotum only microscopically punctured; apical joints of the antenne	•
	fusco-ferruginous; second abscissa of the radius shorter than the first or third	T. tenuis, Turn.
16.	Apical tarsal joint light ferruginous; pos- terior slope of the median segment	
	finely punctured	T. fortior, Turn.
	striated	T. subopacus, Turn. debilis, Turn., nec Perez).

Tachytes australis, Sauss., 1867 (nec Saussure, 1854), is almost certainly a Tachysphex, but I am unable to identify it. In dealing with Australian Tachysphex in a former paper (Proc. Zool. Soc. p. 491, 1908), I mentioned a doubtful record of the New Zealand species T. nigerrimus, Sm., from Victoria; this is certainly a case of mistaken locality. I have seen no specimens of T. truncatifrons in recent collections, and it is possible that the locality on the type at Oxford is erroneous.

# Tachysphex depressiventris, sp. n.

Q. Nigra; mandibulis apice ferrugineis; tarsis anticis spinis albidis; alis hyalinis, venis nigris; mesonoto scutelloque nitidis; abdomine depresso, nitido.

Long. 9-10 mm.

?. Clypeus shining and sparsely punctured, convex, the apical margin strongly depressed, transverse. Front finely and closely punctured, an oblique undulating carina on each side from above the base of the antennæ not quite reaching Second joint of the flagellum equal to the third, a little more than twice as long as the first. The front is not strongly convex, and the convex area on which the posterior ocelli are placed is less developed than is usual in the genus. Eyes separated on the vertex by a distance not quite equal to twice the length of the second joint of the flagellum. notum depressed much below the mesonotum, the middle a little higher than the sides; mesonotum and scutellum shining, microscopically punctured; pleuræ opaque, minutely punctured. Median segment broader than long, a little narrowed to the apex, opaque, shagreened, with a distinct impressed line from the base to the apex, the surface of the apical truncation very finely transversely striated. Abdomen strongly depressed, the dorsal surface flat, shining, with a broadly interrupted apical band of white pubescence on segments 1-3; pygidial area lanceolate, very narrow, shining, with a few small punctures. Second abscissa of the radius distinctly longer than the third; the first recurrent nervure nearer to the first transverse cubital nervure than to the second recurrent nervure. Comb of the fore tarsus well developed, the spines whitish, tinged with ferruginous.

Hab. Yallingup, S.W. Australia, January; Mundaring

Weir, S.W. Australia, March 18, 1914 (Turner).

This species may be distinguished by the strongly flattened abdomen.

# Tachysphex persistans, sp. n.

- Q. Nigra, nitida, segmento mediano opaco; segmentis dorsalibus
   1-3 macula transversa laterali albo-pilosa; alis fuscis.
   Long. 18 mm.
- Q. Clypeus shining, sparsely punctured, transverse at the apex; labrum bilobed. Front finely and closely punctured, not convex, depressed and convex round the base of the

antennæ. Second joint of the flagellum equal to the third, at least three times as long as the first. Eyes separated on the vertex by a distance slightly greater than the length of the second joint of the flagellum. Pronotum depressed below the mesonotum, a little higher in the middle than at the sides, very sharply sloped. Mesonotum and scutellum shining and smooth; pleuræ opaque, almost smooth. Median segment smooth, opaque, without a median line, as long as broad, the posterior slope transversely striated. Abdomen smooth and shining; pygidial area very long and narrow, with a few minute punctures, the sixth segment as long as the fourth and fifth combined. Fore tarsi stout, the comb short as compared with most species of the genus. The three abscissæ of the radius about equal in length; first recurrent nervure distinctly nearer to the second than to the first transverse cubital nervure. The tegulæ are brown at the anex.

Hab. Yallingup, S.W. Australia, December (Turner). This may be distinguished from other Australian species by the larger size and highly polished appearance. The eyes are closer to each other on the vertex than in hypoleius, Sm.

# Tachysphex stimulator, sp. n.

- Q. Nigra; segmentis dorsalibus 1-4 fascia apicali argenteo-pilosa; segmento mediano transverse ruguloso-striato; alis fuscis.
- ♂. Feminæ similis. Long., ♀ 17 mm., ♂ 15 mm.

2. Clypeus shining, irregularly and rather coarsely punctured, convex at the base, the apical half depressed and flattened; apical margin transverse, with two indistinct teeth on each side close to the angles. Front subopaque, minutely punctured, with an indistinct longitudinal sulcus reaching the anterior ocellus. Eyes separated on the vertex by a distance slightly exceeding the combined length of the two basal joints of the flagellum; the second joint of the flagellum equal to the third and nearly three times as long as the first. Pronotum oblique, depressed below the mesonotum, somewhat higher in the middle than at the sides. Pleuræ and mesonotum subopaque, microscopically punctured; median segment opaque, as long as the mesonotum, transversely rugulose-striate, with a shallow longitudinal sulcus from base to apex, the face of the posterior truncation more strongly transversely striated, with a deep sulcus from the base not reaching the apex. Abdomen subopaque above, smooth and

shining beneath, the four basal dorsal segments with an apical band of silver pubescence. Pygidial area shining, strongly and rather closely punctured, without pubescence, elongate, pointed at the apex. Comb of the fore tarsi long and well developed; tarsal ungues long as in the genus Notogonia. Third abscissa of the radius distinctly longer than the second, the distance between the two recurrent nervures on the cubitus scarcely more than half as great as that between the first recurrent and the first transverse cubital nervures.

The male has the seventh dorsal segment closely but not coarsely punctured, the punctures more or less confinent longitudinally, and the median segment is granulate on the dorsal surface.

Hab. Yallingup, S.W. Australia, December (Turner).

May be distinguished from hypoleius, Sm., by the sculpture of the median segment and pygidial area, the longer tarsal ungues, and the lesser distance between the recurrent nervures. But there seems to be considerable variation in the development of the sculpture of the median segment, which in some specimens is almost as smooth as in hypoleius.

#### Genus Paralellopsis, Maidl.

Paralellopsis, Maidl, Boll. Lab. Zool. Portici, ix. p. 147 (1914).

To this genus must be assigned Gastrosericus neavei, Turn. (Trans. Ent. Soc. London, 1912 [1913]), which, however, is quite distinct from the typical species P. africana. The generic distinctions given seem to me rather slight in view of the aberrant structure of some species of Gastrosericus.

#### Gastrosericus swalei, sp. n.

- Q. Nigra, pallide aureo-pilosa; tegulis macula basali, femoribus apice tibiisque extus flavis; tegulis apice testaceis; tarsis fuscis; mandibulis fusco-ferrugineis; alis hyalinis, venis fuscis; prosterno utrinque acute cornuto.
- Long. 7 mm.
- Q. Eyes moderately convergent towards the vertex, separated on the vertex by a distance equal to about twice the length of the scape; front very broad, clypeus and lower part of the face covered with short silver pubescence. Eyes separated from the posterior margin of the head by a distance

equal to about half the length of the scape. Prosternum produced on each side into a stout, acute, curved horn, plainly visible from above. Median segment shorter than the mesonotum, strongly narrowed to the apex. The whole insect opaque, with pale golden pubescence thinly distributed, becoming denser on the pronotum, median segment, and behind the eyes, and forming apical bands on the dorsal segments of the abdomen. Pygidial area triangular, punctured and bare. Second abscissa of the radius very short; the two recurrent nervures meeting before joining the cubitus.

Hab. Lonely Mine, Rhodesia (H. Swale); January. Easily distinguished by the extraordinary horns of the prosternum; otherwise it superficially resembles the West-African G. attenuatus, Turn., but has the median segment shorter and the eyes much farther apart on the vertex, in the latter feature resembling G. lamellatus, Turn., and forming a link between the usual strongly convergent eyes of Gastrosericus and the parallel eyes of Paralellopsis.

XXV.—Descriptions of a new Species and Subspecies of Ennea from Northern Nigeria, and a Correction in the Original Description of E. reesi, Preston. By H. B. Preston, F.Z.S.

THE species and subspecies described below were received through the kindness of Colonel A. G. Peile, and were obtained by Mr. H. Cadman, of the Colonial Civil Service, at Idah village, at an altitude of 1300 feet, 25 miles north of Abuja, Zaria Province, Northern Provinces, Nigeria. The author has much pleasure in dedicating the new species, a most interesting form, to the collector.

It may, perhaps, not be out of place to here make a small correction in a former paper by the author, also dealing with Enneidæ from Nigeria\*. In this paper the words placed in square brackets in the quotation below should be added to the last lines of the diagnosis of Ennea reesi, thus:—"Aperture obliquely subtriangular, armed with a projecting, parietal, lamella-like tooth, two denticles on the inner margin of the [labrum and two on the inner margin of the] columella lip, the lower in each case being the stronger."

<sup>\*</sup> Proc. Malac. Soc. xi. 1914, pp. 134-136.